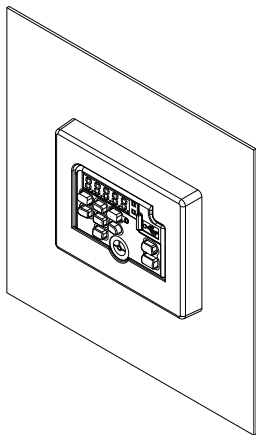


## YASKAWA AC Drive Option Compact Keypad Panel Mounting Kit Installation Manual

Model ZPBA-GA500

To properly use the product, read this manual thoroughly and retain for easy reference, inspection, and maintenance. Ensure the end user receives this manual.



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## 1 Receiving

### ◆ Applicable Documentation

Document	Description
YASKAWA AC Drive Option Compact Keypad Panel Mounting Kit Installation Manual	Read this manual before you install the option. The manual contains information about how to install the option and put the keypad external to the enclosure panel.
Yaskawa AC Drive Manuals	For information about drive settings, refer to the manuals for the drive with which you are using this option. The manuals provide information about basic installation, wiring, operation procedures, functions, troubleshooting, and maintenance. The manuals also include important information about parameter settings and tuning the drive. You can download drive manuals from the Yaskawa product and technical information website shown on the back cover of this manual.

### ◆ Glossary

Terminology Used in this Document	Description
Drive	YASKAWA AC Drive GA500
Attachment, Option	YASKAWA AC Drive Option Compact Keypad Panel Mounting Kit

## 2 General Safety

### ◆ Supplemental Safety Information

**▲ DANGER** This signal word identifies a hazard that will cause serious injury or death if you do not prevent it.

**⚠ WARNING** *This signal word identifies a hazard that can cause death or serious injuries if you do not prevent it.*

**⚠ CAUTION** *Identifies a hazardous situation, which, if not avoided, can cause minor or moderate injury.*

**NOTICE** *This signal word identifies a property damage message that is not related to personal injury.*

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### ◆ Section Safety

#### General Precautions

- Some figures in the instructions include options and drives without covers or safety shields to more clearly show the inside of the drive. Replace covers and shields before operation. Use options and drives only as specified by the instructions.
- The figures in this manual are examples only. All figures do not apply to all products included in this manual.
- Yaskawa can change the products, specifications, and content of the instructions without notice to make the product and/or the instructions better.
- If you damage or lose these instructions, contact a Yaskawa representative or the nearest Yaskawa sales office on the rear cover of the manual, and tell them the document number on the front cover to order new copies.

**⚠ DANGER** *Electrical Shock Hazard. Do not examine, connect, or disconnect wiring on an energized drive. Before servicing, disconnect all power to the equipment and wait for the time specified on the warning label at a minimum. The internal capacitor stays charged after the drive is de-energized. The charge indicator LED extinguishes when the DC bus voltage decreases below 50 Vdc. When all indicators are OFF, measure for dangerous voltages to make sure that the drive is safe. If you do work on the drive when it is energized, it will cause serious injury or death from electrical shock. The drive has internal capacitors that stay charged after you de-energize the drive.*

**⚠ CAUTION** *Burn Hazard. Do not touch a hot drive heatsink. De-energize the drive, wait for a minimum of 15 minutes, then make sure that the heatsink is cool before you replace the cooling fans. If you touch a hot drive heatsink, it can burn you.*

**⚠ WARNING** *Electrical Shock Hazard. Only let approved personnel install, wire, maintain, examine, replace parts, and repair the drive. If personnel are not approved, it can cause serious injury or death.*

**⚠ WARNING** *Sudden Movement Hazard. Tighten the screws to the specified tightening torque. Incorrect tightening torques can cause damage to equipment and cause serious injury or death from falling equipment.*

**NOTICE** *Damage to Equipment. When you touch the drive and circuit boards, make sure that you observe correct electrostatic discharge (ESD) procedures. If you do not follow procedures, it can cause ESD damage to the drive circuitry.*

### 3 Overview

Use this option to install the keypad outside of the control panel.

You can install the keypad outside of the control panel when you install the attachment. It is not necessary to open or close the control panel door to operate a drive that is in a control panel.

#### ◆ Compatible Products

This installation kit is compatible with these drives:

- GA500

#### ◆ Installation Environment

The installation environment is important for the lifespan of the product and to make sure that the drive performance is correct. Make sure that the installation environment agrees with these specifications.

Environment	Conditions
Area of Use	Indoors
Power Supply	Overvoltage Category III (IEC60664)

### 3 Overview

Environment	Conditions
Ambient Temperature Setting	IP20/UL Open Type: -10 °C to +50 °C (14 °F to 122 °F) IP20/UL Type 1: -10 °C to +40 °C (14 °F to 104 °F) <ul style="list-style-type: none"><li>• When you install the drive in an enclosure, use a cooling fan or air conditioner to keep the internal air temperature in the permitted range.</li><li>• Do not let the drive freeze.</li></ul>
Humidity	95%RH or less Do not let condensation form on the drive.
Storage Temperature	-20 °C to +70 °C (-4 °F to +158 °F) (short-term temperature during transportation)
Surrounding Area	Pollution degree 2 or less (IEC 60664-1) Install the drive in an area without: <ul style="list-style-type: none"><li>• Oil mist, corrosive or flammable gas, or dust</li><li>• Metal powder, oil, water, or other unwanted materials</li><li>• Radioactive or flammable materials.</li><li>• Harmful gas or fluids</li><li>• Salt</li><li>• Direct sunlight</li></ul> Keep wood and other flammable materials away from the drive.
Altitude	1000 m (3281 ft) Maximum <b>Note:</b> Derate the output current by 1% for each 100 m (328 ft) to install the drive in altitudes between 1000 m to 4000 m (3281 ft to 13123 ft). It is not necessary to derate the rated voltage in these conditions: <ul style="list-style-type: none"><li>• Installing the drive at 2000 m (6562 ft) or lower</li><li>• Installing the drive between 2000 m to 4000 m (6562 ft to 13123 ft) and grounding the neutral point on the power supply. Contact Yaskawa or your nearest sales representative when not grounding the neutral point.</li></ul>



Environment	Conditions
Vibration	<ul style="list-style-type: none"> <li>• 10 Hz to 20 Hz: 1 G (9.8 m/s<sup>2</sup>, 32.15 ft/s<sup>2</sup>)</li> <li>• 20 Hz to 55 Hz: 0.6 G (5.9 m/s<sup>2</sup>, 19.36 ft/s<sup>2</sup>)</li> </ul>
Installation Orientation	<p>Install the drive vertically or horizontally for sufficient airflow to cool the drive.</p> <p>Refer to the drive Technical Manual for more information.</p>

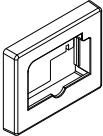


**NOTICE** *Do not put drive peripheral devices, transformers, or other electronics near the drive. Shield the drive from electrical interference if components must be near the drive. Components near the drive can cause incorrect drive operation from electrical interference.*

**NOTICE** *Do not let unwanted objects, for example metal shavings or wire clippings, fall into the drive during drive installation. Put a temporary cover over the drive during installation. Remove the temporary cover before start-up. Unwanted objects inside of the drive can cause damage to the drive.*

## 4 Receiving

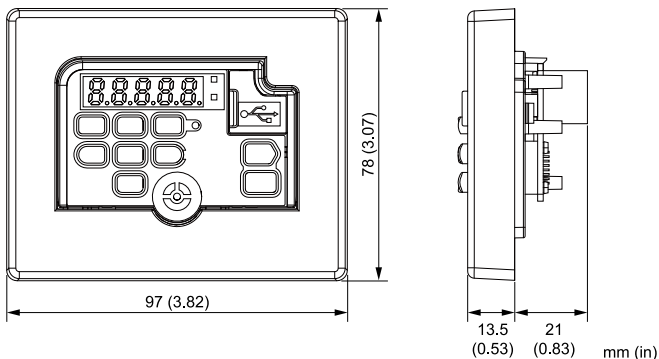
1. Examine the products for damage.  
If there is damage to the products, contact the shipping company immediately. The Yaskawa warranty does not include damage from shipping.
2. Verify the product model number to make sure that you received the correct model.  
If you have problems with the products, contact the distributor where you purchased the products or the Yaskawa sales office immediately.

### ◆ Option Package Contents

Model	Attachment	Circuit Board	Mounting Screws
ZPBA-GA500	 Qty: 1	 Qty: 1	 Qty: 4

## 5 Attachment Dimensions and Panel Cut-out Dimensions

### ◆ Attachment Dimensions



**Figure 5.1 Exterior and Mounting Dimensions**

## ◆ Panel Cut-Out Dimensions

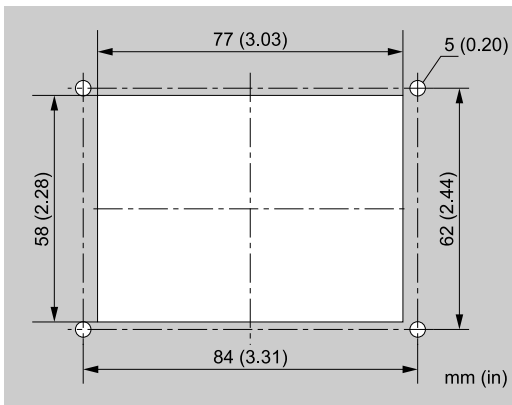


Figure 5.2 Panel Cut-out Diagram

## 6 Install the Attachment


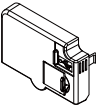
### ◆ Necessary Tools

To install the attachment, use Phillips screwdriver #2.

### ◆ Related Options

Contact Yaskawa or your nearest sales representative to make an order.

## 6 Install the Attachment

Option	Name	Model	Description
	Remote Control Extension Cable	1 m: WV001 3 m: WV003	RJ-45, 8-pin straight-through UTP CAT5e cable
	Blank Cover	JVOP-KPBCH04A AA	Use the blank cover to maintain the drive protection level when you install the keypad on the outside of the control panel.

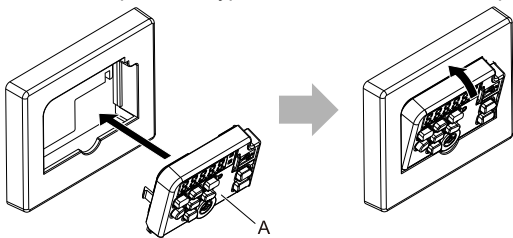
### ◆ Install the Keypad Attachment on an Enclosure Panel

Cut an opening in the enclosure panel before you install the attachment.

**NOTICE** Do not let unwanted objects, for example metal shavings or wire clippings, fall into the drive during drive installation. Put a temporary cover over the drive during installation. Remove the temporary cover before start-up. Unwanted objects inside of the drive can cause damage to the drive.

1. Install the keypad in the attachment.

Put the bottom of the keypad into position first, then push on the top of the keypad until the hook clicks into position.

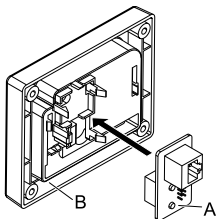


A - Keypad

Figure 6.1 Attach the Keypad

2. Attach the circuit board to the attachment.

Push the circuit board until the hooks click into place on the attachment.



A - Circuit board

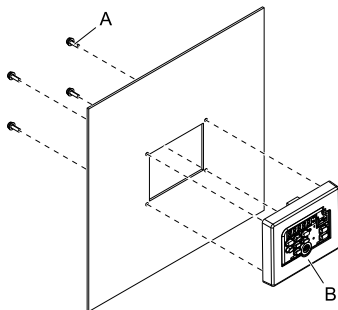
B - Attachment

**Figure 6.2 Install the Circuit Board**

3. Put the attachment over the opening on the enclosure panel and use the supplied screws to attach the attachment from the inside of the panel.

Tighten the screws to a correct tightening torque:

- 0.98 N·m to 1.33 N·m (8.67 in·lb to 11.77 in·lb)



A - Screw

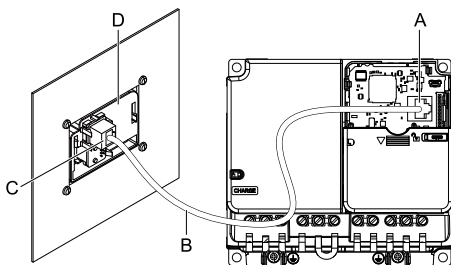
B - Attachment

**Figure 6.3 Install the Attachment**

4. Use the remote control extension cable to connect the attachment to the drive.

**Note:**

Use an optional blank cover to maintain the drive protective level.



**A - Communication connector of the drive**

**C - Communication connector of the attachment**

**B - Remote control extension cable**

**D - Attachment**

**Figure 6.4 Connect the Drive to the Attachment**

## 7 Disposal

### ◆ Disposal Instructions

Correctly dispose of the product and packing material as specified by applicable regional, local, and municipal laws and regulations.

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**◆ WEEE Directive**

The wheeled bin symbol on this product, its manual, or its packaging identifies that you must recycle it at the end of its product life.

You must discard the product at an applicable collection point for electrical and electronic equipment (EEE). Do not discard the product with usual waste.

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## Revision History

Date of Publication	Revision Number	Section	Revised Content
June 2019	1	All	Revision: Reviewed and corrected entire documentation.
		6	Revision: Reviewed and corrected the installation procedure.
February 2019	-	-	First Edition





# YASKAWA AC Drive Option Compact Keypad Panel Mounting Kit Installation Manual

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# YASKAWA

YASKAWA ELECTRIC CORPORATION

In the event that the end user of this product is to be the military and said product is to be employed in any weapons systems or the manufacture thereof, the export will fall under the relevant regulations as stipulated in the Foreign Exchange and Foreign Trade Regulations. Therefore, be sure to follow all procedures and submit all relevant documentation according to any and all rules, regulations and laws that may apply.

Specifications are subject to change without notice for ongoing product modifications and improvements.

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